EXHIBIT A

Claim Chart for U.S. Patent No. 8,594,162

U.S. Patent No. 8,594,162	**Infringement Allegations**
8. A device comprising:	**ITU-T G.993.2 VDSL2 Standard** The Accused Products operate in accordance with the VDSL2 (i.e., ITU-T G.993.2) standard comprise a device **ITU-T** TELECOMMUNICATION STANDARDIZATION SECTOR OF ITU **G.993.2** (12/2011) SERIES G: TRANSMISSION SYSTEMS AND MEDIA, DIGITAL SYSTEMS AND NETWORKS Digital sections and digital line system – Access networks **Very high speed digital subscriber line transceivers 2 (VDSL2)**

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U.S. Patent No. 8,594,162	Infringement Allegations
	See, e.g., ITU-T G.993.2 (02/2019) at § 3.64 Syncflag, § 10.5.3 On-line reconfiguration
change to transmitting using a second interleaver parameter value that is different than the first interleaver parameter value,	**ITU-T G.993.2 VDSL2 Standard** The Accused Products change to transmitting using a second interleaver parameter value that is different than the first interleaver parameter value. See, e.g., ITU-T G.993.2 (12/2011) at § 9.4.1 – Dynamic change of interleaver depth and Table 11-6 **9.4.1 Dynamic change of interleaver depth** A method to dynamically change the interleaver depth during transmission is defined for VDSL2. This method is optional. Support shall be indicated during initialization in O-MSG 1 and R-MSG 2. NOTE – Although this clause defines the procedure for dynamically changing the interleaver depth during transmission, the control command for initiating this procedure is not defined in this version of in this Recommendation. The calling procedure for dynamic change of interleaver depth will be defined in a future revision to this Recommendation. A change of the interleaver depth shall only be initiated at the first byte of an RS codeword, where k is the sequence number of this byte at the input of the interleaver. For an increase of the interleaver depth from D_{old} to D_{new} with $D_{old} < D_{new}$ the interleaver output is defined by: $$y(n + \Delta_{old}[j]) = x(n); \text{ for } n + \Delta_{old}(j) < k, \text{ where } \Delta_{old}[j] = (D_{old} - 1) \times j$$ $$y(n + \Delta_{new}[j]) = x(n); \text{ for } n + \Delta_{old}(j) \geq k, \text{ where } \Delta_{new}[j] = (D_{new} - 1) \times j$$ For a decrease of the interleaver depth from D_{old} to D_{new} with $D_{old} > D_{new}$ the interleaver output is defined by: $$y(n + \Delta_{old}[j]) = x(n); \text{ for } n + \Delta_{new}(j) + \delta < k$$ $$y(n + \Delta_{new}[j] + \delta) = x(n); \text{ for } n + \Delta_{new}(j) + \delta \geq k$$ where δ is the length of the transition and is given by: $$\delta = \lceil (D_{old} - D_{new}) \cdot (I - 1)/I \rceil \cdot I$$

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	Table 11-6 – OLR commands sent by the initiating VTU

Name	Length (octets)	Octet number	Content	Support
Request Type 1	$5 + 4 \times N_f$ $(N_f \le 128)$	2	04_{16} (Note 1)	Mandatory
		3 to 4	2 octets for the number of subcarriers N_f to be modified	
		5 to $4 + 4 \times N_f$	$4 \times N_f$ octets describing the subcarrier parameter field for each subcarrier	
		$5 + 4 \times N_f$	1 octet for SC	
Request Type 2	For further study	2	05_{16} (Note 1)	For further study
		All others	Reserved by ITU-T	
Request Type 3 (SRA) (Note 6)	$5 + 7 N_{LP} + 4 N_f$ $(N_f \le 128)$	2	06_{16} (Note 1)	Optional
		3 to $2 + 2 N_{LP}$	$2 \times N_{LP}$ octets containing the new L_p values for each of the active latency paths (N_{LP} = number of active latency paths) (Notes 2 and 3)	
		$3 + 2 N_{LP}$ to $2 + 4 N_{LP}$	==$2 \times N_{LP}$ octets containing the new D_p values for each of the active latency paths (N_{LP} = number of active latency paths)== (Note 4)	
		$3 + 4 N_{LP}$ to $2 + 5 N_{LP}$	N_{LP} octets containing the new T_p values for each of the active latency paths (N_{LP} = number of active latency paths) (Notes 2, 3, 5)	
		$3 + 5 N_{LP}$ to $2 + 6 N_{LP}$	N_{LP} octets containing the new G_p values for each of the active latency paths (N_{LP} = number of	

See also, e.g., ITU-T G.993.2 (02/2019) at § 9.4.1 – Dynamic change of interleaver depth and Table 11-6